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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/752,624	01/07/2004	Mukund Raghavachari	YOR920030201US1	5975

34663 7590 11/26/2007 MICHAEL J. BUCHENHORNER 8540 S.W. 83 STREET MIAMI, FL 33143	**EXAMINER** LIE, ANGELA M

ART UNIT	PAPER NUMBER
2163	

NOTIFICATION DATE	DELIVERY MODE
11/26/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/752,624	RAGHAVACHARI, MUKUND
	Examiner	Art Unit
	Angela M. Lie	2163

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>10 August 2007</u>.
2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-21</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-21</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>07 January 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2.   The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) and the Intellectual Property and High Technology Technical

Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior

to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3.   **Claims 1, 3, 5, 6, 8, 9, 12, 14, 19-21 are rejected under 35 U.S.C. 102(e) as**

being anticipated by Lindblad et al (US Publication 2004/0073541).

        As to claims 1, 11 and 21, Lindblad discloses an apparatus and a method for

processing an electronic document, wherein the document comprises a tree structure

comprising branches comprising a plurality of nodes (as shown in figure 1), the method

comprising steps of:

-       receiving a query comprising search criteria (Figure 11, step S500) and

        wherein the search criteria comprise a set of constraints that specify

forward or backward relations between nodes (paragraphs 169, and 129,

wherein the searching algorithm moves forward or backward based on

the processing step, therefore there is an indication accompanying the

query specifying forward or backward search, furthermore based on ID

algorithm can move forward);

- receiving a context node from the electronic document with respect to

which the search criteria are applied (Figure 11, step S508, wherein XML

is an electronic document);

- receiving at least a portion of the document (Figure 11, step S508);

- modifying the search criteria to introduce a constraint matching the

context node into the set of constraints (paragraph 164, Xpath

expressions);

- processing the electronic document in a streaming manner and using the

modified search criteria (paragraph 164, candidate set); and

- locating one or more nodes that satisfy the modified search criteria

(Figure 11, step S514).

Note: the memory for storing the instructions and the processor are inherent for

the computing machine, i.e. if instructions would not be stored on the machine

could not perform any function, and if there would be no CPU, computer could

not compute or process any task.

As t o claims 3 and 14, Lindblad discloses the apparatus and the method

wherein the document is an XML document (paragraph 41).

As to claims 5, 12 and 16, Lindblad indirectly discloses the apparatus and the

method comprising modifying the search criteria such that constraints specifying a

backward relation may be reformulated into forward constraints (Figure 11, since step

S512 uses mostly backward search and steps S506 and S508 mostly use forward

search, restarting the search would be equivalent with reformulating constraints in order

to obtain a forward search).

As to claims 6 and 17, Lindblad discloses the apparatus and the method

wherein the query comprises an Xpath expression (paragraph 41).

As to claims 8-10, 19 and 20, Lindblad discloses the method further comprising

reordering the tree structure representing the document to be search such that the

number of nodes traversed is minimized (paragraph 105, wherein the nodes returned

are part of the document).

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   **Claims 2, 4, 13 and 15 are rejected under 35 U.S.C. 103(a) as being**

unpatentable over Lindblad et al (2004/0073541) in the view of Raboczi et al (US

Publication 2003/0074352). Lindblad teaches all the limitations disclosed in claims 1

and 11 respectively, however he does not explicitly state that the document is stored in

memory or that the document is streaming. Raboczi teaches database query system

wherein the document can be stored on the memory device or can be stored in the file

system of the database in which case the user to access document would have

streaming document (paragraph 59). It would have been obvious to one of the ordinary

skill in the art during the time the invention was made to store the document on the

memory device or access it via internet (streaming), because in order to search

document, there has to be constant access to the document at least during the duration

of the search, in order to obtain one has to have the document stored or be able to

access it via network.

6.		**Claims 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable**

over Lindblad et al (2004/0073541) in the view of Trappen et al (US Publication

20050138064). Lindblad teaches the limitations in claims 1 and 11, however he does

not teach that query is represented by a modified directed acyclic graph comprising a

node "Ctxt" which only matches the context node. Trappen teaches the system for

manipulating database wherein the query is represented by DAG (directed acyclic

graph), and wherein the query is matched with the searched document or file

(paragraph 161). It would have been obvious to one of the ordinary skill in the art during

the time the invention was made to DAG to represent the query because this allows for

much faster search than the traditional text (serial) query.

Response to Arguments

7.   Applicant's arguments filed February 22nd, 2007 have been fully considered but they are not persuasive.

8.   With respect to the applicant's assertion on page 7, alleging that Lindblad "does not teach applying search criteria to a context node from the electronic document", the examiner disagrees. It is very clearly illustrated in figure 11, step S508, that the query results (context nodes) are obtained in result to submitted search criteria (query, hash keys). Furthermore, the context nodes are part of the electronic document (XML) that match the submitted query (search criteria).

9.   Moreover, on the same page, the applicant continues asserting that Lindblad also "does not teach modifying the search criteria to introduce a constraint matching the context node into the set of constraints", the examiner again disagrees. In addition to paragraph 164 (of US Publication 2004/0073541, now patent No. 7171404), the paragraphs 156 and 157 clearly teach optimizing/modifying query (search criteria) based on the content of the tree content describing the relations among the elements of the document. Consequently, the examiner maintains that Lindblad teaches modifying search criteria as to introduce a constraint matching the context nodes (portions/nodes of a tree representing document) into the set of constraints (query).

10.   Bridging to page 8, the applicant further alleges that Lindblad "does not teach processing the electronic document in a streaming manner", the examiner disagrees. As the applicant noted, the examiner mentioned before that Lindblad does not explicitly state that data is processed in a streaming manner, however forward and backward

search imply "streaming manner", in other words data/query can be processed as the

data/query is transferred.

11.   Also on page 8, last paragraph, the applicant alleges that the examiner must

have refer to "post-processing", in order to address the claim limitation disclosing

"modification of the search criteria", the examiner does not agree with this assertion.

While there is place for post-processing of the query in Lindblad's teaching, he also

explicitly discloses that the query could be modified prior to being executed. This is very

well illustrated in figure 11, S502 and S504. Consequently, the examiner maintains that

the "pre-processing" modification is also taught by Lindblad.

12.   Furthermore on page 9, the applicant asserts that Lindblad teaches "reducing his

query into step queries" and this is not equivalent with modifying search criteria, the

examiner disagrees. Since "search criteria" is such a broad phrase, hence the examiner

interprets search criteria as a query, i.e. based on the submitted query particular data

will be returned. Additionally, Lindblad explicitly teaches that the query can be

modified/optimized (Figure 11, steps S502-S504).

13.   In the following paragraph, the applicant asserts that in contrast to the prior art,

the algorithm of the current invention performs "a single depth-first traversal" rather than

multiple traversals. The examiner would like to note however, that this limitation is not

disclosed in any of the current claims, and therefore it is not given any patentable

weight.

14.   Also on page 9, last paragraph, the applicant alleges that Lindblad does not

teach "reordering a tree structure such that the number of nodes traversed is

minimized", the examiner disagrees. As taught in paragraph 105 (in US Publication 2004/0073541, now patent No. 7171404), the tree can be reordered based on the frequency of the desired terms, in other words most frequently searched text will be rearranged as to be closer to the top of the tree, so it is possible to obtain results much faster.

15.   With respect to the applicant's assertion on page 10, stating that the claim invention does not refer to streaming in context of downloading and viewing a file in real-time, instead "a streaming document is the stock market ticker tape", the examiner disagrees. Since the term "streaming" is very broad and it is not uniquely defined in the specification, the examiner can allot it with the broadest reasonable interpretation, and in the context of storing (claim 2), streaming interpreted as a download with a real-time viewing is considered more than appropriate.

16.   As to the last argument referring to claims 7 and 18, wherein the applicant alleges that the use of XDAG "is far cry from Trappen's conventional use of the DAG", the examiner would like to note, that nowhere in the argument, the applicant pointed out why such a combination would be unsuccessful, or which part of the combination would not have a reasonable possibility of success. Consequently, the examiner maintains that the obviousness type of rejection is proper because the presented prior art teaches all the disclosed limitation and further the motivation for combining arts is also provided. In addition the examiner would also like to note that previous TSM test has been replaced with a far more flexible KSR guidelines as the result of one of most recent court cases addressing obviousness type of rejection, i.e. KSR versus Teleflex.

The Prior Art

17.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US Patent 6442545 discloses term level text search comprising a tree structure.

Conclusion

18.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

19.   A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Inquiry

20.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela M. Lie whose telephone number is 571-272-8445. The examiner can normally be reached on M-F.
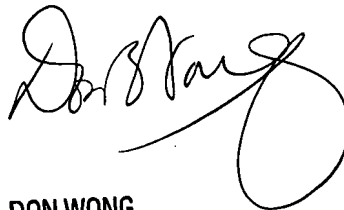
21.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

22.   Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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